

AN ANNOTATED CHECKLIST OF THE TAXONOMIC AND CONSERVATION STATUS OF LAND MAMMALS IN THE PHILIPPINES

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The mammal fauna of the Philippine Islands is currently considered to contain 165 species in the following orders (with number of species): Insectivora (10); Scandentia (2); Dermoptera (1); Chiroptera (69); Primates (3); Pholidota (1); Rodentia (66); Carnivora (7); Artiodactyla (6). We summarize information on the distribution, taxonomic, and conservatory status of each species, and provide a brief summary and bibliography of literature on Philippines mammals.

The Philippine Islands support a mammal fauna that is extremely rich in both diversity and number of endemics. This fauna has been the subject of taxonomic study for well over a century, during which a gradual accretion of knowledge has occurred. As this knowledge has accumulated, attempts have been made to provide summaries of the fauna, in the form of either checklists or monographic reviews (Hollister, 1912, 1913; Taylor, 1934; Alcasid, 1970). In the nearly twenty years that have passed since the last such checklist was published, many new species have been described, and revisions of various taxa have resulted in changes in our perceptions of the taxonomic status of many species. However, these references are scattered in scientific journals published in many countries, and often are not seen by non-specialists in mammalian taxonomy. Thus, there is a need for a new summary of the Philippine mammal fauna; and this paper is intended to fill that need.

An additional need lies in the unhappy realization that the last eighteen years have seen a great reduction in the extent of forests in the Philippines, and a rising concern for the effects of deforestation on the unique mammal fauna of the country. A recent paper has suggested that two species of fruit bats are probably extinct (Heaney and Heideman, 1987); and several species of large mammals are known to be severely threatened. In this paper we have combined our personal knowledge of the mammals of the Philippines, obtained through many years of field work, to provide a brief assessment of the habitat requirements and conservation status of each species. These characterizations should be taken as working hypotheses about the species rather than as comprehensive, authoritative statements. The basic ecology of many species remains very poorly known, and many islands have never been surveyed; much field work will be needed before even these basic data are available. In many cases we are unable to offer any comment; this should be taken as indicative of the pressing need for additional field studies in the near

figure.

Our comments on the distribution of each species are based on the published literature, our own field work, and specimens we have examined in collections. Because this paper is intended only as a working list of the mammals of the Philippines, we have not provided full taxonomic synonymies; earlier papers (Alcasid, 1969; Taylor, 1934) should be consulted for this information. We have used Honacki et al. (1982) as our starting point for both species names and for higher categories.

We have not included mention of subspecies designations in this list for two reasons. First, the use of subspecies names implies detailed knowledge of geographic variation, and such information is rarely available for Philippine mammals. Virtually all subspecies names now in use need to be reevaluated. Secondly, we believe that use of subspecies would distract the reader from more crucial issues of general distribution and conservation status.

The paper is divided in two sections. The first is a brief summary of the recent literature on Philippine mammals, and the second is the checklist itself.

RECENT LITERATURE ON PHILIPPINE MAMMALS

Although comprehensive description of the mammalian fauna of Southeast Asia began in the early 1800s, little was known of the mammalian fauna of the Philippines prior to the end of the nineteenth century. Since the publication of the first classic papers on the systematics and zoogeography of Philippine mammals (Everett, 1889; Steere, 1890; Thomas, 1898), information on the fauna has accumulated gradually. The first comprehensive summary, that of Hollister (1912, 1913), was based on a burst of field studies that occurred soon after the American occupation of the Philippines (Manuel, 1935). Interpretations of zoogeographic patterns were summarized in Dickerson (1928). Taylor's (1934) massive compilation, actually written in the mid-1920s, was also a product of this period. Lawrence (1939) contributed the first ecological data for many species, as well as many range records and descriptions of several new species. The post-World War II field studies described by Hoogstraal (1951), Sanborn (1952, 1953), and Rabor (1955) supplemented the earlier data, and left the impression that the fauna was, after 50 years of effort, moderately well known. However, in the 1980s a burst of descriptions of new species and of revisions showing that many taxa could not be distinguished (and thus were synonymized) has demonstrated that this was not so. This recent work has also shown that our past understanding of patterns of distribution was quite incomplete.

These historical patterns are easily recognized in Table 1, which shows the date of naming of each currently recognized

species for each decade beginning in 1750. The non-endemic species, those that occur elsewhere in Southeast Asia, were described from 1758 (the date of Linnaeus' first formal classification of organisms) to 1921, with a peak in the 1840s. Very few of these were described from the Philippines, and often were not found there until much later. Although Linnaeus knew of two endemic Philippine species (the tarsier and flying lemur), others were described until 1830, and description of endemic species did not peak until the first decade of this century. Thereafter, there was a peak in the 1950s, but if the species noted in this listing as probable subspecies are indeed found to be subspecies, this peak will diminish, leaving primarily the ca. 14 species from the period of 1979 to the present as representatives of the post-1920 period of exploration.

Table 1. Numbers of species of mammals that occur in the Philippines described from 1758 to 1987 by ten-year intervals. Species that are endemic to the Philippines are distinguished from those that occur elsewhere.

| | Endemic Species | Non-endemic Species |
|-------------|--------------------|------------------------|
| 1750 - 1759 | 2 | 3 |
| 1760 - 1769 | 0 | 3 |
| 1770 - 1779 | 0 | 1 |
| 1780 - 1789 | 0 | 2 |
| 1790 - 1799 | 0 | 1 |
| 1800 - 1809 | 0 | 1 |
| 1810 - 1819 | 0 | 5 |
| 1820 - 1829 | 0 | 8 |
| 1830 - 1839 | 4 | 8 |
| 1840 - 1849 | 2 | 13 |
| 1850 - 1859 | 1 | 4 |
| 1860 - 1869 | 2 | 1 |
| 1870 - 1879 | 4 | 9 |
| 1880 - 1889 | 3 | 0 |
| 1890 - 1899 | 22 | 4 |
| 1900 - 1909 | 13 | 0 |
| 1910 - 1919 | 13 | 3 |
| 1920 - 1929 | 1 | 1 |
| 1930 - 1939 | 4 | 0 |
| 1940 - 1949 | 1 | 0 |
| 1950 - 1959 | 10 | 0 |
| 1960 - 1969 | 3 | 0 |
| 1970 - 1979 | 2 | 0 |
| 1980 - 1987 | 12 | 0 |

Recent publications on Philippine mammals fall into three general categories: systematic papers that deal with a single taxon, those that deal with all or many species from a single geographic region, and those that describe the ecology of one or more species. Taxonomic papers are listed in the text under each family; this listing is not comprehensive, in that we do not include papers concerning widespread species that occur in the Philippines when those papers do not make taxonomic changes.

Papers dealing with faunas, rather than specific taxa, include several that deal with the Philippines as a whole (Alcala, 1976; Groves 1984; Heaney 1985b, 1986; Rabor, 1977), and two that deal with important pre-1900 collections (Largen, 1985; Timm and Birney, 1982). Papers on mammals from Luzon include those by Catibog-Sinha (1982), and Mudar and Allen (1986); from the Semirara Islands near Mindoro (Alcala and Alviola, 1970); from Negros (Heaney et al., 1981; Rabor et al., 1970); from Palawan (Kuntz, 1969); from Mindanao (Sanguila and Tabaranza, 1979), and on small islands off Mindanao (Heaney and Rabor, 1982; Heaney, 1984; Tabaranza and Alconcel, 1979).

Ecological studies have treated the entire fauna (Alcala, 1976; Rabor, 1977); bats (Guerrero and Alcala, 1973; Heaney and Heideman, 1987; Heaney et al., 1981; Mudar and Allen, 1986; Tabaranza and Alconcel, 1979); shrews and rodents (Barbahenn et al., 1973; Heideman et al., 1987); tarsiers (McNab and Wright, 1987), small carnivores (Alcala and Brown, 1969); and ungulates (Cox, 1987; Kuehn, 1986).

A number of papers have discussed the need for conservation of Philippine mammals; general treatments include those by Gonzales and Alcala (1969), Rabor (1966a, 1968), and Tabaranza (1979). Papers dealing with individual species include those on deer and pigs (Cox, 1987), fruit bats (Heaney and Heideman, 1987), and dwarf water buffalo (Kuehn, 1986). The paper by Heaney and Heideman (1987) concludes that two species of fruit bats have become extinct in recent years, the first extinctions to be documented in the Philippines.

We also note that several papers have dealt with the fossil mammals of the Philippines. All of these species are Pleistocene in origin, all are large-bodied species, and all are poorly known (Fox and Peralta, 1974; Groves, 1984, 1985); additional work could add an exciting new dimension to our understanding of the evolution and ecology of the Philippine fauna.

CHECKLIST OF PHILIPPINE MAMMALS

By our count, there are 165 species of mammals known to occur in the Philippines. Of these, seven are introduced commensal species, 98 are endemic to the Philippines, and 60 are native to the Philippines and at least one other country.

In describing the distributions of species, we often refer to the zoogeographic regions of the country; these are shown in figure 1 (from Heaney, 1986). This map is based on the extent of islands in the Philippines during the late Pleistocene period when the development of immense continental glaciers had, in effect, removed water from the world's oceans, so that sea level was 120 meters lower than it is today. Each of these "mega-islands" defines the limit of a distinct fauna (Heaney, 1986; 1988). The three principal faunal regions thus defined are the Luzon faunal region (including Luzon, Catanduanes, Marinduque, and several small islands), the Mindanao faunal region (including Mindanao, Basilan, Bohol, Leyte, Samar, and adjacent small islands), and the Palawan faunal region (including Palawan, Balabac, Busuanga, Culion, Cuyo, and adjacent small islands). Some other islands coalesced into islands larger than those of today (e.g., a single island from Tawitawi to Jolo, and an island including Negros, Panay, Cebu, and Masbate), or remained isolated (e.g., Mindoro).

The recognition of these faunal regions is an important aid to understanding the distribution of Philippine mammals. However, it should be borne in mind that many small islands have never been surveyed, and many moderately large islands are poorly known. New distributional records are discovered by virtually every regional survey, especially among the more poorly known taxa (such as bats). Further field work is essential to determine the distributions of many species, and to document the faunas of the smaller island groups.

INSECTIVORA

Erinaceidae - Hedgehogs and gymnures

A new species was described by Heaney and Morgan (1982). Variation and distribution in P. truei was described by Poduschkina and Poduschkina (1985).

Podogymnura aureospinula Heaney and Morgan, 1982. Proc. Biol. Soc. Washington 95:14.

Distribution: Dinagat Island.
Status: Unknown; geographically restricted.

Podogymnura truei Mearns, 1905. Proc. U. S. Nat. Mus. 28:436
Distribution: Highlands of Mindanao.
Status: Probably widespread in high elevation forest on Mindanao

Soricidae - shrews

Heaney (in prep.) reported the first records of C. attenuat from the Philippines, reduced into synonymy C. palawanensis (with C. fuliginosa), C. parvacauda (with C. beatus), and C. halconu

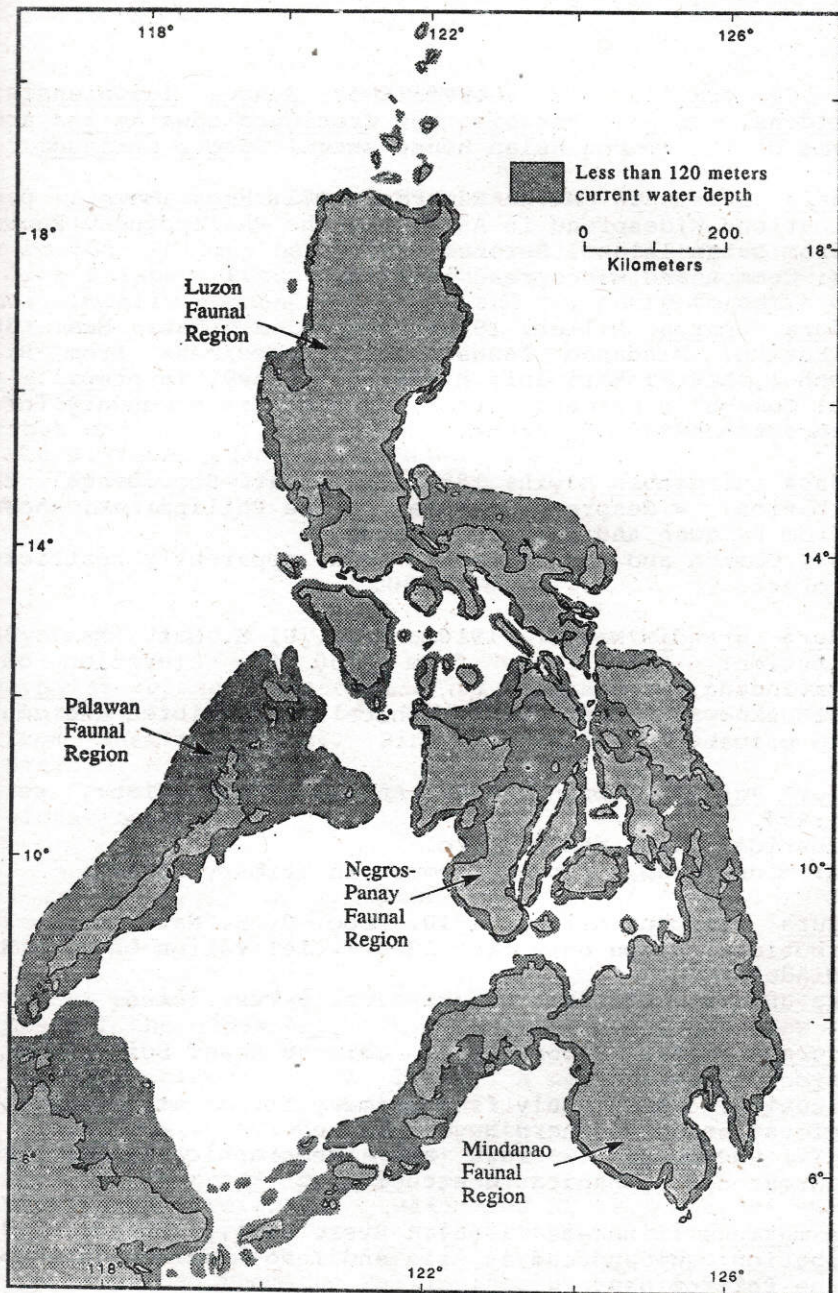


Fig. 1. Zoogeographic regions of the Philippines. Map is based on the extent of islands in the Philippines during the late Pleistocene period.

(with C. grayi), and showed that Suncus luzoniensis, occultidens, S. palawanensis, and Crocidura edwardsiana are synonyms of the common Asian house shrew, Suncus murinus.

Crocidura attenuata Milne-Edwards, 1872. Rech. Mamm., p. 26
Distribution: Widespread in Asia; in the Philippines, known only from Batan Island, Batanes Prov.
Status: Common and widespread in Asia.

Crocidura beatus Miller, 1910. Proc. U. S. Nat. Mus. 38:39
Distribution: Mindanao faunal region; specimens from Biliran, Bohol, Leyte, Maripipi, Mindanao (Heaney, in prep.).
Status: Common in primary forest, uncommon in secondary forest, absent outside of forest.

Crocidura fuliginosa Blyth, 1855. J. Asiat. Soc. Bengal 24:36
Distribution: Widespread in Asia; in the Philippines, known only from Palawan and Balabac Islands.
Status: Common and widespread in Asia, apparently restricted to forest.

Crocidura grandis Miller, 1910. Proc. U. S. Nat. Mus. 38:39
Distribution: Known only from 6100 ft. elevation on Mt. Malindang, Mindanao.
Status: Unknown; probably geographically restricted and confined to primary forest.

Crocidura grayi Dobson, 1890. Ann. Mag. Nat. Hist., ser. 6:494.
Distribution: Luzon and Mindoro.
Status: Widespread, probably common in primary forest.

Crocidura mindorus Miller, 1910. Proc. U. S. Nat. Mus. 38:39
Distribution: Known only from 6300 ft. elevation on Mt. Halcon Mindoro.
Status: Unknown; probably geographically restricted.

Crocidura negrina Rabor, 1952. Chicago Acad. Sci. Nat. Hist. Misc. 96:6.
Distribution: Known only from primary forest at 500 to 1450 elevation on southern Negros Island.
Status: uncommon or rare and geographically restricted, threatened by habitat destruction.

Suncus murinus (Linnaeus, 1766). Syst. Nat., 12th ed., 1:74.
Distribution: Widespread in Asia and Indo-Australia; throughout the Philippines.
Status: Non-native; abundant in urban and agricultural areas, often in disturbed forest, occasionally in primary forest.

SCANDENTIA

Tupaiaidae - Tree Shrews

Tupaia palawanensis Thomas, 1894. Ann. Mag. Nat. Hist., ser. 6, 13:367.

Distribution: Philippines only; Palawan faunal region; specimens from Balabac, Busuanga, Culion, Cuyo, Palawan.

Status: Locally common in primary and secondary forest, coconut groves, and banana plantations.

Trogale everetti (Thomas, 1892). Ann. Mag. Nat. Hist., ser. 6, 9:250.

Distribution: Philippines only; highlands of Mindanao, Dinagat, and Siaragao (Heaney and Rabor, 1982).

Status: Probably widespread and locally abundant in forest on Mindanao.

DERMOPTERA

Cynocephalidae - Flying lemurs, colugos

Cynocephalus volans (Linnaeus, 1758). Syst. Nat., 10th ed., 1:30.

Distribution: Philippines only; Mindanao faunal region; specimens from Basilan, Bohol, Dinagat, Leyte, Mindanao, Samar, Siargao.

Status: Common in primary and secondary forest at low to middle elevations.

CHIROPTERA

Pteropodidae - Fruit bats

Musser et al. (1982) demonstrated that Pteropus leucotis is a member of the genus Acerodon. Description of two new genera and species, Alionycteris paucidentata and Otopteropus cartilagonodus (Kock, 1969b, 1969c), a new species of Nyctimene (N. rabori; Heaney and Peterson, 1984), and a new Ptenochirus (P. minor; Yoshiyuki, 1969), coupled with recognition of Dobsonia chapmani Rabor, 1952 as a distinct species (Bergmans, 1978), and synonymy of Pteropus balutus and P. tablasi with P. pumilus (Klingener and Creighton, 1984) and of P. mearnsi with P. speciosus (Heaney, in prep.), have greatly altered our view of the pteropodid fauna of the Philippines. Dyacopterus spadiceus was first reported from the Philippines by Kock (1969a).

Peterson and Fenton (1970) described variation in Harpyionycteris, and considered H. whiteheadi to be a separate species from H. celebensis. Examination of the holotypes of Cynopterus archipelagus and Macrogllossus fructivorus has shown

both to be juveniles that fall within the range of variation of Cynopterus brachyotis and Macroglossus minimus, respectively (Heaney, pers. obs.).

Acerodon jubatus (Eschscholtz, 1831). Zool. Atl., Pt. 4:1.
Distribution: Philippines only; throughout the country with the exception of the Palawan faunal region.

Status: Widespread and locally common in primary forest; heavily hunted, declining.

Acerodon leucotis (Sanborn, 1950). Proc. Biol. Soc. Washington 63:189.

Distribution: Palawan faunal region only; specimens from Balabac, Busuanga, Palawan.

Status: Uncertain, but probably moderately common in forest.

Acerodon lucifer Elliot, 1896. Field. Columbian Mus. Publ., Zool. Ser., 1:78.

Distribution: Panay only.

Status: Not seen since 1888; presumed extinct.

Alionycteris paucidentata Kock, 1969. Senckenberg. Bio. 50:319.

Distribution: Known only from Mt. Katanglad, Bukidnon Prov., Mindanao.

Status: Probably uncommon and geographically restricted.

Cynopterus brachyotis (Muller, 1838). Tijdschr. Nat. Gesch. Physiol. 5:146.

Distribution: Throughout the Philippines; widespread in Southeast Asia.

Status: Abundant in agricultural areas, less common in forest.

Dobsonia chapmani Rabor, 1952. Chicago Acad. Sci. Nat. Hist. Misc. 96:2.

Distribution: Known only from Negros and Cebu.

Status: Last seen in 1964; probably extinct due to habitat destruction and hunting (Heaney and Heideman, 1987).

Dyacopterus spadiceus (Thomas, 1890). Ann. Mag. Nat. Hist., ser. 6, 5:235.

Distribution: Sumatra and the Malay Peninsula to the Philippines; specimens only from Luzon and Mindanao.

Status: Unknown; widespread but rare in museum collections.

Eonycteris robusta Miller, 1913. Proc. Biol. Soc. Washington 26:73

Distribution: Philippines only; specimens from Leyte, Luzon, Mindanao, Negros, Siargao.

Status: Widespread in primary forest but not common; apparently rare or absent outside of forest. Taxonomic status uncertain; sometimes considered a subspecies of E. major

(Honacki et al., 1982), but there is no evidence of intergradation between the Bornean and Philippine morphotypes (Heaney, unpub. data), so we retain the species.

Mycteris spelaea (Dobson, 1871). Proc. Asiatic Soc. Bengal, p. 105, 106.

Distribution: India to Timor; throughout the Philippines.

Status: Common, especially in agricultural areas; heavily hunted.

Polonycteris fischeri Lawrence, 1939. Bull. Mus. Comp. Zool., 86:33

Distribution: Philippines only; throughout the country, possibly excluding the Palawan faunal region.

Status: Common in primary forest, rare in secondary forest, absent outside of forest.

Parpyionycteris whiteheadi Thomas, 1896. Ann. Mag. Nat. Hist., ser. 6, 18:244.

Distribution: Philippines only; Mindanao faunal region, Negros, Mindoro.

Status: Locally common to uncommon in moderate to high elevation primary rain forest, absent elsewhere.

Macroglossus minimus (E. Geoffroy, 1810). Ann. Mus. Hist. Nat. Paris, 15:97.

Distribution: Thailand to Australia, throughout the Philippines.

Status: Abundant, especially in agricultural areas.

Megaerops wetmorei Taylor, 1934. Monogr. Bur. Sci. Manila, 30:191.

Distribution: Mindanao only (but reported without documentation from Borneo by Payne et al., 1985).

Status: Unknown; geographically restricted and probably confined to primary forest.

Myctimene rabori Heaney and Peterson, 1984. Occ. Pap. Mus. Zool. Univ. Michigan 708:3.

Distribution: Known only from southern Negros Island.

Status: Rare and geographically restricted, in primary forest only, declining due to habitat destruction.

Uropteropus cartilagonodus Kock, 1969. Senckenberg, Biol. 50:333.

Distribution: Luzon only.

Status: Poorly known, apparently locally common in primary and good secondary forest, probably absent outside of forest.

Ptenochirus jagori. (Peters, 1861). Monatsb. Preuss. Akad. Wiss. Berlin, p. 707.

Distribution: Philippines only; throughout the country, excluding the Palawan region.

Status: Abundant in primary forest, less common in secondary forest, occasionally in agricultural areas near forest.

Ptenochirus minor Yoshiyuki, 1979. Bull. Nat. Sci. Mus. Tokyo, ser. A (Zool.), 5:75.

Distribution: Mindanao faunal region only; specimens from Biliran, Dinagat, Leyte, Mindanao; possible record from Palawan.

Status: Abundant in primary forest, uncommon in secondary forest, absent outside of forest.

Pteropus hypomelanus Temminck, 1853. Esquisses, Zool. sur la Cote de Guine, p. 61.

Distribution: Thailand to Australia; throughout the Philippines, possibly excluding the Palawan region.

Status: Common in agricultural areas; hunted, locally uncommon.

Pteropus leucopterus Temminck, 1853. Esquisses, Zool. sur la Cote de Guine, p. 60.

Distribution: Known only from Luzon and Dinagat.

Status: Probably rare; may be cloud forest endemic.

Pteropus pumilus Miller, 1910. Proc. U. S. Nat. Mus. 38:394.

Distribution: Philippines only; throughout the Philippines, excluding the Palawan faunal region.

Status: Locally common to uncommon in primary forest, uncommon in secondary forest, rare or absent outside of forest.

Pteropus speciosus Andersen, 1908. Ann. Mag. Nat. Hist., ser. 8, 2:364.

Distribution: Mindanao, Basilan, and Sulu Archipelago only.

Status: Unknown; geographically restricted, uncommon in collections.

Pteropus vampyrus (Linnaeus, 1758). Syst. Nat., 10th ed., 1:31.

Distribution: Indochina to Lesser Sunda Islands; throughout the Philippines.

Status: Widespread and locally common in primary forest; heavily hunted, declining.

Rousettus amplexicaudatus (E. Geoffroy, 1810). Ann. Mus. Hist. Nat. Paris 15:96.

Distribution: Thailand to Solomon Islands; throughout the Philippines.

Status: Abundant, especially in agricultural areas; heavily hunted.

Emballonuridae - Sheath-tailed bats

Emballonura alecto (Eydoux and Gervais, 1836). Mag. Zool., Paris 6:7.

Distribution: Borneo, Philippines, Sulawesi; throughout the Philippines.

Status: Common in areas with caves in or near forest; apparently rare elsewhere.

Saccolaimus pluto (Miller, 1910). Proc. U. S. Nat. Mus. 38:396.
Distribution: Philippines only, but may be a subspecies of widespread S. saccolaimus.

Status: Poorly known; may be moderately common in agricultural areas.

Taphozous philippinensis Waterhouse, 1845. Proc. Zool. Soc. London 1845:9.

Distribution: Philippines only, but may be a subspecies of widespread T. melanopogon.

Status: Common in urban areas and in areas with caves.

Megadermatidae - False vampire bats

Megaderma spasma (Linnaeus, 1758). Syst. Nat., 10th ed., 1:32.

Distribution: India to the Molucca Islands; throughout the Philippines.

Status: Locally common to uncommon in primary forest and secondary forest.

Rhinolophidae - Horseshoe and roundleaf bats

This family is very poorly known, principally because they are difficult to capture; new records and major changes in known distributions are to be expected.

Hill (1963) included Hipposideros wrighti Taylor, 1934 as a synonym of H. ater, a species which formerly had been considered a synonym of H. bicolor. Jenkins and Hill (1981) assigned records previously reported as H. galeritus to H. cervinus.

Myotis hirsuta (Miller, 1911). Proc. U. S. Nat. Mus. 38:395.

Distribution: Mindoro only, but may be a subspecies of C. robinsoni, known from the Malay Peninsula and Borneo.

Status: Unknown; may be dependent on caves.

Hipposideros ater. Templeton, 1848. J. Asiatic Soc. Bengal, 17:252.

Distribution: India to Australia; throughout the Philippines.

Status: Unknown.

Hipposideros bicolor (Temminck, 1834). Tijdschr. Nat. Gesch. Physiol., 1:19.

Distribution: India to Timor; Philippine specimens from Luzon, Mindoro, Palawan.

Status: Unknown.

Hipposideros cervinus (Tomes, 1859).

Distribution: Peninsular Malaysia to New Guinea; Philippine specimens from Mindanao only.

Status: Unknown.

Hipposideros coronatus (Peters, 1871). Monatsb. Preuss. Akad. Wiss. Berlin, p. 327.

Distribution: Known only from Mainit, Surigao Prov. Mindanao.

Status: Unknown; geographically restricted.

Hipposideros diadema (E. Geoffroy, 1813). Ann. Mus. Hist. Nat. Paris 20:263.

Distribution: Burma to the Solomon Islands; throughout the Philippines.

Status: Widespread and common.

Hipposideros obscurus (Peters, 1861). Monatsb. Preuss. Akad. Wiss. Berlin, p. 707.

Distribution: Philippines only; specimens from Dinagat, Luzon Mindanao.

Status: Widespread, locally common to uncommon in primary forest.

Hipposideros pygmaeus (Waterhouse, 1843). Proc. Zool. Soc. London 1843: 67.

Distribution: Philippines only; specimens from Bohol, Luzon Negros.

Status: Widespread, apparently restricted to caves in forested areas.

Rhinolophus acuminatus Peters, 1871. Monatsb. Preuss. Akad. Wiss. Berlin, p. 308.

Distribution: Thailand to Lombok; in Philippines, known only from Palawan faunal region.

Status: Uncertain; apparently locally common.

Rhinolophus anderseni Cabrera, 1909. Bol. Soc. Esp. Nat. Hist. p. 305.

Distribution: Philippines only; records from Luzon and Palawan.

Status: Unknown; rare in collections.

Rhinolophus arcuatus Peters, 1871. Monatsb. Preuss. Akad. Wiss. Berlin p. 305.

Distribution: Sumatra to New Guinea; throughout the Philippines possibly excluding the Palawan faunal region.

Status: Widespread, locally common in caves.

Rhinolophus inops Andersen, 1905. Ann. Mag. Nat. Hist., ser. 7 16:284, 651.

Distribution: Philippines only; specimens from Mindanao faunal region only.

Status: Locally abundant in primary forest.

- Myolophus macrotis Blyth, 1844. J. Asiat. Soc. Bengal. 13:485.
 Distribution: India to Sumatra and the Philippines.
 Status: Widespread but uncommon, primary forest only.
- Myolophus philippinensis Waterhouse, 1843. Proc. Zool. Soc. London 1843:68.
 Distribution: Borneo and the Philippines to Australia; Philippine records from Luzon, Mindanao, Mindoro, Negros.
 Status: Uncertain; apparently uncommon, primary forest only.
- Myolophus rufus Eydoux and Gervais, 1836. Zool. Voy. "Favorite", p. 9.
 Distribution: Philippines only; specimens from Bohol, Luzon, Mindanao, Mindoro.
 Status: Uncertain; locally common in caves in forest.
- Myolophus subrufus Andersen, 1905. Ann. Mag. Nat. Hist., ser. 7, 16:283.
 Distribution: Philippines only; specimens from Luzon, Mindanao, Mindoro.
 Status: Unknown; the few available specimens were taken in caves.
- Myolophus virgo Andersen, 1905. Proc. Zool. Soc. London, 1905:88.
 Distribution: Philippines only; throughout the Philippines.
 Status: Widespread and common.

Vespertilionidae - Common bats

We follow Hill (1983) in considering Miniopterus australis to include paululus, and M. schreibersii to include scholtzii; however, we recognize that this is provisional and in need of further study. Peterson (1981) commented on variation in Miniopterus tristis.

Findley (1972) considered Myotis rufopictus to be a subspecies of M. formosus. Hill (1983) listed Myotis jeannei as a subspecies of M. horsfieldii, and M. browni and M. herrei as synonyms of Myotis muricola. Honacki et al. (1982) considered M. muriciae to be a synonym of M. muricola, and Heaney's determination (unpubl. obs.) of the holotype confirms this. Piletor brachypterus was first reported from the Philippines by Black (1981). Pipistrellus javanicus is considered to include P. grammus and P. irretitus (Honacki et al., 1982). Previously unreported specimens of Pipistrellus petersi from Luzon and Mindanao are housed in the US National Museum and the American Museum of Natural History. Tylonycteris robustula was first reported from the Philippines by Heaney and Alcala (1986). Mischrops tylopus Dobson, 1875. Proc. Zool. Soc. London 1875:473.

Distribution: Burma to Molucca Islands; Philippine records from Palawan only.
 Status: Unknown.

Kerivoula hardwickii (Horsfield, 1824). Zool. Res. Java, Pt. 8:28.

Distribution: India and southern China to Lesser Sunda Islands; Philippine records from Mindanao, Palawan, Samar.
 Status: Uncertain; probably moderately common in primary forest.

Kerivoula pellucida (Waterhouse, 1845). Proc. Zool. Soc. London, 1845:6.

Distribution: Borneo, Java, Malay Peninsula, Sumatra, Mindanao, Jolo, Palawan.
 Status: Unknown.

Kerivoula whiteheadi Thomas, 1894. Ann. Mag. Nat. Hist., ser. 6, 14:460.

Distribution: Southern Thailand to Borneo, Philippines; records from Luzon, Mindanao, and Panay.
 Status: Unknown.

Miniopterus australis Tomes, 1858. Proc. Zool. Soc. London, 1858:125.

Distribution: India to Australia; throughout the Philippines.
 Status: Common, dependent on caves.

Miniopterus schreibersii (Kuhl, 1819). Ann. Wetterau Ges. Naturk. 4(2):185.

Distribution: Europe to Solomon Islands; throughout the Philippines.
 Status: Common, dependent on caves.

Miniopterus tristis (Waterhouse, 1845). Proc. Zool. Soc. London, 1845:3.

Distribution: Philippines to Solomon Islands; records throughout the Philippines, possibly excluding Palawan faunal region.
 Status: Common, dependent on caves.

Murina cyclotis Dobson, 1872. Proc. Asiat. Soc. Bengal, p. 210.

Distribution: Sri Lanka to Hainan and Borneo, Philippines; records from Luzon and Mindanao only.
 Status: Unknown.

Myotis formosus (Hodgson, 1835). J. Asiat. Soc. Bengal 4:700.

Distribution: Afghanistan to Philippines and Sulawesi. Philippine populations may be a distinct species, M. rufopictus.

Status: Unknown; rare in museum collections.

Myotis horsfieldii (Temminck, 1840). Monogr. Mamm. 2:226.

Distribution: SE China to Malay Peninsula, Bali, and Sulawesi; Philippine records from Luzon, Mindanao, Negros, and Palawan.

Status: Moderately common in caves and primary forest.

Myotis macrotarsus (Waterhouse, 1845). Proc. Zool. Soc. London 1845:5.

Distribution: Borneo and the Philippines; throughout the Philippines.

Status: Widespread but uncommon, dependent on caves.

Myotis muricola (Gray, 1846). Cat. Hodgson Coll. Brit. Mus., p. 4.

Distribution: Afghanistan to New Guinea; throughout the Philippines.

Status: Widespread, moderately common in agricultural and forested areas.

Philetor brachypterus (Temminck, 1840). Monogr. Mamm., 2:215.

Distribution: Sumatra to New Guinea; Philippine records from Mindanao and Negros.

Status: Uncertain; probably moderately common in primary forest.

Phoniscus jagorii (Peters, 1866). Monatsb. Preuss. Akad. Wiss. Berlin, p. 399.

Distribution: Bali, Borneo, Java, Sulawesi, and Samar.

Status: Unknown.

Pipistrellus javanicus (Gray, 1838). Mag. Zool. Bot. 2:498.

Distribution: Korea to Java and the Philippines; throughout the Philippines.

Status: Moderately common in primary and secondary forest.

Pipistrellus petersi (Meyer, 1899). Abh. Zool. Anthropol.-Ethnology. Mus. Dresden 7(7):13.

Distribution: Sulawesi, Molucca Islands, and the Philippines; records from Luzon and Mindanao.

Status: Unknown.

Pipistrellus stenopterus (Dobson, 1875). Proc. Zool. Soc. London 1875:470.

Distribution: Sumatra to Mindanao; a single Philippine specimen from Zamboanga, Mindanao.

Status: Unknown.

Pipistrellus tenuis (Temminck, 1840). Monogr. Mamm., 2:229.

Distribution: Thailand to Australia; records from Mindanao and Negros.

Status: Moderately common in primary forest.

Scotophilus kuhlii Leach, 1822. Trans. Linn. Soc. London, 13:71
Distribution: Pakistan to Taiwan and Bali; throughout the
Philippines.

Status: Abundant in urban and agricultural areas.

Tylonycteris pachypus (Temminck, 1840). Monogr. Mamm. 2:217.
Distribution: India to Philippines and Lesser Sunda Islands;
throughout the Philippines.

Status: Probably moderately common.

Tylonycteris robustula Thomas, 1915. Ann. Mag. Nat. Hist., ser.
8, 15:227.

Distribution: Southern China to Lesser Sunda Islands; Philippine
records from Luzon and Calauit only.

Status: Unknown.

Molossidae - Free-tailed bats

Freeman (1981) recognized Chaerophon, formerly a subgenus of
Tadarida, as a valid genus; Hill (1961) had previously placed T.
luzonus as a synonym of C. plicata. Freeman (1981) also listed
Philippinopterus as a synonym of Mops, and lanei as a subspecies
of Mops sarasinorum.

Chaerophon plicata (Buchanon, 1800). Trans. Linn. Soc.
London 5:261.

Distribution: India to Bali and Hainan; Philippine records from
Cebu, Leyte, Luzon, Mindanao, Negros.

Status: Unknown; probably represented by a few very large
colonies in caves.

Cheiromeles parvidens Miller and Hollister, 1921. Proc. Biol.
Soc. Washington 34:100.

Distribution: Sulawesi, Mindanao, Mindoro, and Negros.

Status: Unknown.

Cheiromeles torquatus Horsfield, 1824. Zool. Res. Java, Pt. 8.

Distribution: Sumatra to Java and Palawan; Philippine records
from Palawan only.

Status: Unknown.

Mops sarasinorum (Meyer, 1899). Abh. Zool. Anthropol. Ethnology.
Mus. Dresden 7(7):15.

Distribution: Sulawesi and Philippines; records from Mindanao
only.

Status: Unknown.

PRIMATES

Lorisidae - Lirises and couangs

Nycticebus couang Boddaert, 1785. Elench. Anim., p. 67.

Distribution: India to Borneo and Philippines: records from Sulu Archipelago only (Musser and Heaney, 1985).

Status: Unknown.

Tarsiidae - Tarsiers

The taxonomic status of the four species of Tarsius was reviewed by Musser and Dagosto (1987).

Tarsius syrichta (Linnaeus, 1758). Syst. Nat., 10th ed., 1:29.

Distribution: Philippines only; records from Basilan, Biliran, Bohol, Dinagat, Leyte, Mindanao, and Samar.

Status: Locally common in low to mid-elevation primary and secondary forest and secondary growth in agricultural areas.

Cercopithecidae - Monkeys

Macaca fascicularis (Raffles, 1821). Trans. Linn. Soc. London 13:246.

Distribution: Burma to Timor; throughout the Philippines.

Status: Locally common to uncommon; hunted heavily.

PHOLIDOTA

Manidae - pangolins

Manis javanica Desmarest, 1822. Encyclop. Method. Mamm. 2:377.

Distribution: Burma to Java, Philippines; Philippine records from Palawan faunal region only.

Status: Uncommon, heavily hunted; possibly seriously endangered.

RODENTIA

Sciuridae - Squirrels

Heaney (1985a) considered Exilisciurus to be a valid genus, but considered E. luncefordi, E. samaricus, and E. surrutilus to be synonyms of E. concinnus. Heaney (1979) described a new tree squirrel, Sundasciurus rabori, from Palawan.

Exilisciurus concinnus (Thomas, 1888). Ann. Mag. Nat. Hist., ser. 6, 6:407.

Distribution: Philippines only; records from Mindanao faunal region.

Status: Widespread, moderately common at upper elevations in primary and secondary forest, absent outside of forest.

Hylometes mindanensis (Rabor, 1939). Philippine J. Sci. 69:389.

Distribution: Known only from Gingoog, Misamis Oriental Prov., Mindanao.

Status: Unknown; holotype destroyed during WW II; possibly allied to Petinomys crinitus.

Hylometes nigripes Thomas, 1893. Ann. Mag. Nat. Hist., ser. 6, 12:30.

Distribution: Palawan Island only.

Status: Moderately common.

Petinomys crinitus Hollister, 1911. Proc. Biol. Soc. Washington 24:185.

Distribution: Philippines only; records from Basilan, Dinagat, Mindanao, and Siargao.

Status: Uncertain; probably moderately common in primary forest.

Sundasciurus davensis (Sanborn, 1952). Fieldiana Zool. 33:117.

Distribution: Known only from Davao Prov., Mindanao; probably a subspecies of S. philippinensis.

Status: Uncertain; probably locally common.

Sundasciurus hoogstraali (Sanborn, 1952). Fieldiana, Zool. 33:115.

Distribution: Busuanga Island only.

Status: Locally common.

Sundasciurus juvenus (Thomas, 1908). Ann. Mag. Nat. Hist., ser. 8, 2:498.

Distribution: Central (north of Abo-abo) and northern Palawan Island only.

Status: Locally common.

Sundasciurus mindanensis (Steere, 1890). List of the Birds and Mammals collected by the Steere Expedition to the Philippines, p. 29.

Distribution: Philippines only; Mindanao and adjacent small islands; probably a subspecies of S. philippinensis.

Status: Locally abundant in secondary and primary forest.

Sundasciurus mollendorffi (Matschie, 1898). Sitzb. Ges. Naturf. Fr. Berlin 5:41

Distribution: Culion, Linapacan, Iloc, and Tampil Islands only.

Status: Locally abundant in primary and secondary forest and coconut groves. Currently includes S. albicauda Matschie 1898, but further study is needed.

Sundasciurus philippinensis (Waterhouse, 1839). Proc. Zool. Soc. London 1839:117.

Distribution: Philippines only; Mindanao and adjacent islands.

Status: Locally common in forested regions.

Sundasciurus rabori Heaney, 1979. Proc. Biol. Soc. Washington 92:281.

Distribution: Known only from vicinity of Mt. Mantalingajan, Palawan Island.

Status: Geographically restricted, probably confined to upper elevation forest; moderately common.

Sundasciurus samarensis Steere, 1890. List of the Birds and Mammals collected by the Steere Expedition to the Philippines, p.30.

Distribution: Bohol, Leyte, Samar, and adjacent islands; may be a subspecies of S. philippinensis.

Status: Common in primary and secondary forest.

Sundasciurus steeri (Gunther, 1877). Proc. Zool. Soc. London 1876:735.

Distribution: Balabac and southern Palawan (Brooke's Point Municipality) Islands only.

Status: Common in lowland forest, coconut groves, and banana plantations.

Muridae - Mice and rats

The murids have been more extensively studied in recent years than any other group of Philippine mammals. Five new genera have been described (Abditomys Musser, 1982a; Anonymomys Musser, 1981; Archboldomys Musser, 1982c; Palawanomys Musser and Newcomb, 1983; Sundamys Musser and Newcomb, 1983), and five genera that at times have been listed as subgenera of Rattus are now recognized as valid (Apomys, by Musser, 1982b; Bullimus, by Musser, 1982c; Limnomys, by Musser, 1977b; Maxomys, by Musser et al., 1979; and Tryphomys, by Musser, 1981b). Mindanaomys is now considered to be a synonym of Batomys (Musser, 1981b). New species have been named in the genera Batomys (Musser and Heaney, in prep.), Crateromys (Musser and Gordon, 1981; Musser et al., 1985), Crunomys (Musser, 1982c), Haeromys (Musser, in prep.), Rattus (Musser and Heaney, 1985), and Rhynchomys (Musser and Freeman, 1981). Study of geographic variation in Chrotomys indicates that two species are present (Musser et al., 1981). The validity of Chiropodomys calamianensis has been confirmed (Musser, 1979). All Philippine populations of Mus are now placed in the species M. musculus (subspecies castaneus), and the species is considered to be non-native (Marshall, 1977; Marshall and Sage, 1981; Marshall, 1986). Many populations formerly recognized as species of Rattus are now considered to be

synonyms of Rattus exulans, R. norvegicus, and R. rattus (Musser, 1977).

Abditomys latidens (Sanborn, 1952). Fieldiana Zool. 33:125.
Distribution: Known only from Mountain and Laguna provs., Luzon.
Status: Uncertain; probably uncommon.

Anonymomys mindorensis Musser, 1981. Bull. Amer. Mus. Nat. Hist. 168:300.

Distribution: Known only from Ilong Peak, Halcon Range, Mindoro.
Status: Unknown; geographically restricted, rare in collections.

Apomys abrae (Sanborn, 1952). Fieldiana Zool. 33:133.
Distribution: Known only from the central cordillera of Luzon.
Status: Uncertain; probably widespread in middle to high elevation forest in northern Luzon.

Apomys datae (Meyer, 1899). Abhand. Mus. Dresden, ser. 7, 7:25.
Distribution: Known only from Mountain Prov., Luzon.
Status: Uncertain, known only from high elevation forest, geographically restricted.

Apomys hylocetes Mearns, 1905. Proc. U.S. Nat. Mus. 28:456.
Distribution: Known only from high elevations on Mt. Apo, Davao Prov., Mindanao.
Status: Unknown; uncommon in museum collections.

Apomys insignis Mearns, 1905. Proc. U.S. Nat. Mus. 28:459.
Distribution: Widespread in Mindanao.
Status: Probably common in forest at middle to high elevations, especially in mossy forest.

Apomys littoralis (Sanborn, 1952). Fieldiana Zool. 33:134.
Distribution: Known only from the coastal plain of Cotabato Prov., Mindanao and the highlands of southern Negros Island.
Status: Locally common in primary forest on Negros Island; absent outside of forest.

Apomys microdon Hollister, 1931. Proc. U.S. Nat. Mus. 46:327.
Distribution: Recorded from Catanduanes, Leyte, and Dinagat.
Status: Common in primary forest at middle to high elevations, rare in secondary forest.

Apomys musculus Miller, 1911. Proc. U.S. Nat. Mus. 38:403.
Distribution: Highlands of Luzon and Mindoro.
Status: Widespread in forest at middle to high elevations, but apparently uncommon.

Apomys sacobianus Johnson, 1962. Proc. Biol. Soc. Washington 75:319.

Distribution: Known only from the lowlands of Pampanga Prov., Luzon.

Status: Unknown; rare in museum collections.

Archboldomys luzonensis Musser, 1982. Bull. Amer. Mus. Nat. Hist. 174:30.

Distribution: Known only from Mt. Isarog, Camarines Sur Prov., Luzon.

Status: Unknown; rare in museum collections.

Batomys dentatus Miller, 1910. Proc. U.S. Nat. Mus. 38:400.

Distribution: Known only from Benguet Prov., Luzon.

Status: Unknown; rare in museum collections.

Batomys granti Thomas, 1895. Ann. Mag. Nat. Hist., ser. 6, 16:162.

Distribution: Known only from Mt. Data, Benguet Prov., Luzon.

Status: Unknown; rare in museum collections.

Batomys salomonseni (Sanborn, 1953). Vidensk. Medd. Dan. Naturhist. Foren. 115:287.

Distribution: Mindanao faunal region; records from Biliran, Leyte, and Mindanao.

Status: Common in primary forest at high elevations.

Batomys sp.

Distribution: Known only from Dinagat Island; see Heaney and Rabor, 1982.

Status: Unknown: geographically restricted.

Bullimus bagobus Mearns, 1905. Proc. U.S. Nat. Mus. 28:450.

Distribution: Widespread in Mindanao faunal region.

Status: Common in low and mid-elevation primary forest.

Bullimus luzonicus (Thomas, 1895). Ann. Mag. Nat. Hist., ser. 6, 16:163.

Distribution: Highlands of northern Luzon.

Status: Probably common in primary forest.

Bullimus rabori (Sanborn, 1952). Fieldiana Zool. 33:130.

Distribution: Zamboanga Peninsula, Mindanao; may be a subspecies of B. bagobus.

Status: Probably common.

Carpomys melanurus Thomas, 1895. Ann. Mag. Nat. Hist., ser. 6, 16:162.

Distribution: Known only from Benguet Prov., Luzon.

Status: Unknown; rare in museum collections.

Carpomys phaeurus Thomas, 1895. Ann. Mag. Nat. Hist., ser. 6, 16:162.

Distribution: Known only from Benguet and Ifugao provs., Luzon.

Status: Unknown; rare in museum collections.

Celaenomys silaceus (Thomas, 1895). Ann. Mag. Nat. Hist., ser. 6, 16:161.

Distribution: Known only from high elevation forest in Benguet Prov., Luzon.

Status: Unknown; uncommon in museum collections.

Chiropodomys calamianensis (Taylor, 1934). Monogr. Bur. Sci. Manila 30:470.

Distribution: Palawan faunal region only; records from Balabac, Busuanga, and Palawan islands.

Status: Unknown; uncommon in museum collections.

Chrotomys mindorensis Kellogg, 1945. Proc. Biol. Soc. Washington 58:123.

Distribution: Mindoro and lowland central Luzon.

Status: Widespread, apparently not common.

Chrotomys whiteheadi Thomas, 1895. Ann. Mag. Nat. Hist., ser. 6, 16:161.

Distribution: Known only from Benguet Prov., Luzon.

Status: Unknown; uncommon in museum collections.

Crateromys australis Musser, Heaney, and Rabor, 1985. Amer. Mus. Novitates 2821:3.

Distribution: Known only from Dinagat Island.

Status: Unknown; geographically restricted, very rare in museum collections.

Crateromys paulus Musser and Gordon, 1981. J. Mammal. 62:515.

Distribution: Known only from Ilin Island, south of Mindoro.

Status: Unknown; geographically extremely restricted, rare in museum collections.

Crateromys schadenbergi (Meyer, 1895). Abhand. Mus. Dresden 6:1.

Distribution: Known only from Benguet and Ifugao provs., Luzon.

Status: Uncertain; apparently locally common in oak-pine forest, rare elsewhere; hunted.

Crunomys fallax Thomas, 1897. Trans. Zool. Soc. London 14(6):394.

Distribution: Known only from Isabela Prov., Luzon.

Status: Unknown; rare in collections.

Crunomys melanius Thomas, 1907. Proc. Zool. Soc. London 1907:141.

Distribution: Known only from southern Mindanao.

Status: Unknown; rare in museum collections.

- Crunomys rabori Musser, 1982. Bull. Amer. Mus. Nat. Hist. 174:14.
Distribution: Known only from the highlands of northern Leyte.
Status: Uncertain; rare in museum collections, probably confined to mossy forest.
- Haeromys sp.
Distribution: Known only from Palawan and Calauit Islands, Palawan faunal region (see Musser 1983).
Status: Unknown; rare in museum collections.
- Limnomys sibuanus Mearns, 1905. Proc. U.S. Nat. Mus. 28:452.
Distribution: Known only from Mts. Apo and Malindang, southern Mindanao.
Status: Unknown; rare in museum collections.
- Maxomys panglima (Robinson, 1921). Ann. Mag. Nat. Hist., ser. 9, 7:235.
Distribution: Palawan faunal region only.
Status: Common in secondary and primary forest from lowlands to high elevations.
- Mus musculus Waterhouse, 1843. Ann. Mag. Nat. Hist. 12:134
Distribution: Widespread in SE Asia.
Status: Non-native; abundant in urban areas.
- Palawanomys furyus Musser and Newcomb, 1983. Bull. Amer. Mus. Nat. Hist. 174:335.
Distribution: Known only from Mt. Mantalingajan, Palawan Island.
Status: Unknown; rare in museum collections.
- Phloemys cumingi Waterhouse, 1839. Proc. Zool. Soc. London 1839:108.
Distribution: Southern Luzon.
Status: Uncertain.
- Phloemys pallidus Nehring, 1890. Sitzb. Ges. Naturf. Fr. Berlin, p.106.
Distribution: Highlands of northern Luzon.
Status: Widespread and apparently common in forests; hunted.
- Rattus argentiventer (Robinson and Kloss, 1916). J. Straits Br. Roy. Asiat. Soc. 73:274.
Distribution: Thailand to New Guinea; known only from Luzon, Mindanao, and Mindoro in the Philippines.
Status: Non-native; probably locally abundant in agricultural areas.
- Rattus everetti (Gunther, 1879). Proc. Zool. Soc. London 1879:75.
Distribution: Widespread in the Philippines excluding Palawan faunal region.

Status: Common in primary forest, uncommon in secondary forest; absent outside of forest.

Rattus exulans (Peale, 1848). Mammalia and Ornithology, in U.S. Expl. Exped. 8:47.

Distribution: Bangladesh to Easter Island; throughout the Philippines.

Status: Non-native; abundant in agricultural areas, usually rare in forest.

Rattus mindorensis (Thomas, 1898). Trans. Zool. Soc. London 14:402.

Distribution: Known only from Mindoro Island.

Status: Common at high elevations.

Rattus nitidus (Hodgson, 1845). Ann. Mag. Nat. Hist. 15:267.

Distribution: Nepal to New Guinea; in the Philippines, known only from Benguet Prov., Luzon.

Status: Non-native; probably locally abundant in highland agricultural areas.

Rattus norvegicus (Berkenhout, 1769). Outlines Nat. Hist. Great Britain and Ireland 1:5 (N. V.).

Distribution: Worldwide.

Status: Non-native; abundant in urban areas.

Rattus rattus (Linnaeus, 1758). Syst. Nat., 10th ed., 1:61.

Distribution: Worldwide.

Status: Non-native; abundant in urban and agricultural areas; common in disturbed forest.

Rattus tiomanicus (Miller, 1910). Proc. Washington Acad. Sci. 2:212.

Distribution: Malay Peninsula to Borneo and Palawan; in Philippines, in Palawan region only.

Status: Abundant in agricultural areas.

Rattus tawitawiensis Musser and Heaney, 1985. Amer. Mus. Novitates 2818:5.

Distribution: Known only from Tawitawi Island, Sulu Archipelago.

Status: Uncertain; geographically restricted, probably threatened by habitat destruction.

Rattus tyrannus (Miller, 1910). Proc. U.S. Nat. Mus. 38:397.

Distribution: Ticao Island only; probably a subspecies of R. everetti.

Status: Unknown.

Rhynchomys isarogensis Musser and Freeman, 1981. J. Mammal. 62:154.

Distribution: Known only from Mt. Isarog, Camarines Sur Prov., Luzon.

Status: Uncertain; geographically restricted, rare in museum collections.

Rhynchomys soricoides Thomas, 1895. Ann. Mag. Nat. Hist., ser. 6, 16:160.

Distribution: Known only from Mt. Data, Benguet Prov., Luzon.

Status: Uncommon in high elevation, mossy forest.

Sundamys muelleri (Jentink, 1879). Notes Leyden Mus. 2:16.

Distribution: Southern Burma to Palawan; Philippine records from Palawan faunal region only.

Status: Common in forest habitats from lowlands to mossy ridgetops.

Tarsomys apoensis Mearns, 1905. Proc. U.S. Nat. Mus. 28:453.

Distribution: Known only from the highlands of southern Mindanao.

Status: Unknown; rare in museum collections.

Tryphomys adustus Miller, 1910. Proc. U. S. Nat. Mus. 38:399.

Distribution: Known only from Benguet, Laguna, and Tarlac Prov., Luzon.

Status: Uncommon but widespread in central Luzon.

Hystricidae - porcupines

Van Weers (1978) considered Thecurus to be a subgenus of Hystrix, and continued to recognize H. pumila as a distinct species.

Hystrix pumila Gunther, 1879. Ann. Mag. Nat. Hist., ser. 5, 4:106.

Distribution: Known only from Palawan and Busuanga Islands, Philippines.

Status: Locally common to uncommon in lowland secondary and primary forest.

CARNIVORA

Felidae - cats

Felis bengalensis Kerr, 1792. Anim. Kingdom 1:151.

Distribution: Siberia to Pakistan and Bali; in the Philippines, known only from Busuanga, Cebu, Negros, Palawan, and Panay.

Status: Uncommon but widespread in agricultural habitats and forest; heavily hunted.

Mustelidae - Weasels, otters, and badgers

Long (1978) considered Suillotaxus to be a subgenus of Mydaus, and retained M. marchei as a distinct species.

Aonyx cinerea (Illiger, 1815). Abh. Preuss. Akad. Wiss. 1815:99.
Distribution: India to Taiwan and Java; Philippine records from Palawan Island only.

Status: Widespread, but restricted in the Philippines; probably uncommon along coastal rivers and bays.

Mydaus marchei Huet, 1887. Le Naturaliste, II, 9 annee, 13:149-151.

Distribution: Philippines only; records from Palawan, Busuanga, and Iloc Islands.

Status: Geographically restricted and locally moderately common to uncommon in secondary and primary lowland forest.

Herpestidae - Mongooses

Herpestes urva was erroneously listed by Heaney (1986) from Palawan Island.

Herpestes brachyurus Gray, 1837. Proc. Zool. Soc. London 1836:88.

Distribution: Malay Peninsula to Borneo and Palawan; Philippine records from Palawan and Busuanga Islands only.

Status: Widespread, probably moderately common.

Viverridae - Civets

Arctictis whitei is listed as a synonym of A. binturong by Honacki et al. (1982), but its status remains questionable in the absence of critical analysis. Paradoxurus philippinensis has long been considered to be a subspecies of P. hermaphroditus (e.g., Davis, 1962). The report of Paguma larvata from Palawan (listed by Heaney, 1986) may be erroneous, and should be regarded as unlikely until specimens are available.

Arctictis binturong (Raffles, 1821). Trans. Linn. Soc. London 13:253.

Distribution: Northern Burma and Yunnan to Sumatra, Java, and Borneo; in the Philippines, known only from Palawan Island.

Status: Widespread, but Philippine populations restricted and uncommon.

Paradoxurus hermaphroditus (Pallas, 1777). In Schreber, Die Säugethiere, 3:426.

Distribution: Sri Lanka to Hainan and Lesser Sunda Islands; throughout the Philippines.
 Status: Common in agricultural and forested areas.

Viverra zangalunga Gray, 1832. Proc. Zool. Soc. London 1832:63.
 Distribution: Malay Peninsula to Sulawesi and Amboina; throughout the Philippines.
 Status: Common in forest, uncommon elsewhere.

ARTIODACTYLA

Suidae - Pigs

Philippine pigs were revised by Groves (1981), who assigned all populations to Sus barbatus, rather than to S. celebensis.

Sus barbatus Muller, 1838. Tijdschr. Nat. Gesch. Physiol. 5:149.
 Distribution: Malay Peninsula to Borneo and the Philippines; throughout the Philippines.
 Status: Widespread and locally common, but heavily hunted and declining.

Tragulidae - Mouse-deer

Traquulus napu (F. Cuvier, 1822). In E. Geoffroy and F. Cuvier, Hist. Nat. Mamm. 37:2.
 Distribution: Southern Indochina to Java and Borneo; in Philippines, recorded only from Balabac and adjacent small islands.
 Status: Species widespread and common; Philippine population restricted; locally common but rapidly declining due to heavy hunting pressure.

Cervidae - deer

Philippine deer of the subgenus Rusa were revised by Grubb and Groves (1983), who recognized two species, C. alfredi and C. mariannus. Cervus calamianensis, a member of the subgenus Axis, is generally considered to be a member of the species C. porcinus (Honacki et al., 1982); Grubb and Groves (1983) suggested that these might have been introduced from China. Grubb and Groves also noted the presence of a poorly-defined member of the Cervus nippon group on Jolo; they also note the possibility of its having been introduced and the poor-quality of the available material. Until the status of this population is better defined, we exclude it from the list of extant Philippine mammals.
Cervus alfredi Sclater, 1870. Proc. Zool. Soc. London 1870:381.

Distribution: Negros and Panay Islands, possibly Leyte and Samar; extinct on Cebu, Guimaras, and Masbate.

Status: Geographically restricted and rare; heavily hunted, seriously endangered.

Cervus mariannus Desmarest, 1822. Mammalogie; Paris, p.

Distribution: The Mariana Islands and the Philippines; throughout the Philippines except Cebu, Masbate, Negros, and Panay.

Status: Locally common but heavily hunted and declining; local extinctions are common.

Cervus porcinus (Zimmerman, 1780). Spec. Zool. Geogr., p. 532.

Distribution: India to southern China and Indochina; in the Philippines, recorded from only from Busuanga and Culion.

Status: Species widespread and common, but Philippine populations restricted and uncommon.

Bovidae - Cattle and goats

Groves (1969) assigned the Philippine dwarf water buffalo to the subgenus Bubalus, rather than to Anoa.

Bubalus mindorensis (Heude, 1888). Mem. Hist. Nat. Emp. Chin. 2:4.

Distribution: High elevations on Mindoro only.

Status: Rare and geographically restricted; severely endangered.

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